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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/005,241	12/04/2001	Manish P. Sutaria	03248.00039	7912

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EXAMINER

FIORILLA, CHRISTOPHER A

ART UNIT	PAPER NUMBER
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1731

DATE MAILED: 02/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

A9-7

Office Action Summary	Application No.	Applicant(s)	
	10/005,241	SUTARIA ET AL.	
	Examiner	Art Unit	
	Christopher A. Fiorilla	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5,6</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

2. The abstract of the disclosure is objected to because the abstract is not directed to the claimed invention (i.e. the process) and does not recite the steps of the process. Correction is required. See MPEP § 608.01(b).

3. The disclosure is objected to because of the following informalities:

On page 4, line 22, the word "then" should be changed to **than**.

On page 6, line 1, "shall" should be changed to ** shell **.

Appropriate correction is required.

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4. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the production of multiple phase composite materials, does not reasonably provide enablement for the process as generically claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

5. Claims 1 and 2 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification does not disclose the "thermoplastic plasticizer" component recited in claim 1.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 3 is rejected under 35 U.S.C. 102(b) as being anticipated by Nakano et al. (5,294,387).

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lachman (5,053,092) in view of deAngelis (5,398,193).

Lachman teaches the production of a feed rod from a powdermixture comprising a binder and plasticizer, extruding the rod into a desired shape, burning out binders (col. 7, line 10) and sintering the shape. Lachman also discloses the claimed powder materials. Note that the materials disclosed by Lachman (col. 3, lines 45-60) include known sintering aids such as titania and alumina.

DeAngelis discloses the extrusion of a material, e.g. ceramic (col. 13, lines 39-54) onto a mechanically controlled surface in order to produce an article of desired shape. It would have been obvious to one of ordinary skill in the art at the time of the invention to extrude the material of Lachman onto a moving surface such as that of deAngelis to produce an article of desired configuration.

Determination of the specific ingredient ratio would have been well within the realm of routine experimentation to one having ordinary skill in the art at the time of the invention. These parameters would have obviously been selected to optimize the process conditions and/or the properties of the final product.

It is well known in the art to sinter at atmospheric pressure. It would have been obvious to one of ordinary skill in the art at the time of the invention to sinter the article of Lachman under these conditions to avoid costs associated with controlled pressure atmospheres.

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsieh (5,120,688) in view of Sterzel (6,171,532).

Hsieh discloses sintering a preformed monolithic composite in an inert gas at atmospheric pressure. Hsieh also discloses that the composite comprises silicon nitride and boron nitride. Hsieh also discloses that the composite comprises yttria but does not refer to this component as a sintering aid.

Sterzel discloses that yttria is a sintering aid for silicon nitride. Thus it is submitted that it would have been obvious to one having ordinary skill in the art at the time of the invention to use this material in the process of Hsieh as a sintering aid.

Configuration of an article is a matter of choice which a person of ordinary skill in the art would have found obvious absent persuasive evidence that the particular configuration of the claimed article is significant. *In re Dailey*, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

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12. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto et al. (5,116,663) in view of Yano et al. (6,046,499).

Fujimoto et al. discloses forming a monolith material in the form of a filament, compressing the filament, forming the compressed filament into a perform; and sintering the perform. Fujimoto et al. does not recite that pressure or vacuum is applied during sintering.

Fujimoto et al. does not disclose sintering in an inert atmosphere. Yano et al. Discloses sintering ceramic substrate preforms in an inert atmosphere. It would have been obvious to one skilled in the art at the time of the invention to use this type of atmosphere in the process of Fujimoto et al. in view of the generic disclosure therein.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher A. Fiorilla whose telephone number is 703-308-0674. The examiner can normally be reached on M-F, 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 703-308-1164. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7718 for regular communications and 703-305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Christopher A. Fiorilla
Primary Examiner
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